

CLAIMS

1. In a machine for manufacturing packing cushions for use in shipping cartons and the like: a chute, an elongated length of flexible plastic tubing disposed coaxially about the chute, means for drawing successive sections of the tubing from the chute, means for introducing loose fill packing material through the chute into a section of the tubing which has been drawn from the chute, means for sealing the walls of the tubing together along a transversely extending seal line above the loose fill packing material to close the section and form a cushion, and means for perforating the tubing along a transversely extending tear line between the section in which the cushion is formed and the next successive section.
2. The machine of Claim 1 wherein the means for drawing successive sections of the tubing from the chute includes drive rollers engagable with the tubing, and a timer for controlling how long the rollers are engaged with the tubing to control the length of the cushions.
3. The machine of Claim 2 wherein the drive rollers are mounted on swing arms for movement toward each other to engage the tubing and away from each other to clear the tubing.
4. The machine of Claim 1 wherein the means for introducing loose fill packing material comprises a valve and means for opening the valve for a predetermined period of time.
5. The machine of Claim 1 wherein the means for sealing the walls of the tubing includes means for sealing the walls together in a plurality of spaced apart areas along the seal line.
6. The machine of Claim 5 wherein the means for sealing the walls of the

tubing together includes a heated bar on one side of the tubing and a plurality of individual plungers on the other side of the tubing for pressing the tubing against the heated bar in the spaced apart areas.

7. The machine of Claim 1 further including means for forming the tubing around the chute.

8. In a method of manufacturing packing cushions for use in shipping cartons and the like, the steps of: positioning an elongated length of flexible plastic tubing about a chute, drawing a section of the tubing from the chute, introducing loose fill packing material through the chute into the section of the tubing which has been drawn from the chute, sealing the walls of the tubing together along a transversely extending seal line above the loose fill packing material to close the section and form a cushion, perforating the tubing along a transversely extending tear line above the cushion, and repeating the process to form a string of cushions separated by tear lines.

9. The method of Claim 8 wherein the successive sections of tubing are drawn from the chute by periodically engaging the tubing with drive rollers.

10. The method of Claim 9 wherein the drive rollers are alternately swung toward each other to engage the tubing and swung away from each other to clear the tubing.

11. The method of Claim 8 wherein the loose fill packing material is introduced through a valve which is opened for a predetermined period of time.

12. The method of Claim 8 wherein the walls of the tubing are sealed together in a plurality of spaced apart areas along the seal line.

13. The method of Claim 12 wherein the walls of the tubing are sealed

together by pressing the tubing between a heated bar and a plurality of individual plungers on opposite sides of the tubing.

14. The method of Claim 8 wherein the tubing is folded and gathered axially about the chute.

15. The method of Claim 8 including the steps of feeding a continuous length of plastic film longitudinally of the chute, wrapping the film about the chute, and sealing edge portions of the film together to form the tubing.

16. In a machine for manufacturing packing cushions for use in shipping cartons and the like:

 a dispenser having a discharge chute through which loose fill packing material can be discharged;

5 an elongated length of flexible plastic tubing disposed coaxially about the chute;

 means for withdrawing successive sections of the tubing from the chute to form bags for receiving loose fill material discharged through the chute;

10 means for actuating the dispenser to introduce loose fill packing material into a bag formed by a first section of the tubing which has been withdrawn from the chute;

 means for simultaneously sealing the tubing together along two spaced apart transversely extending seal lines above the packing material in the first bag in order to simultaneously close the upper end of the first bag and the lower 15 end of a second bag formed by the next successive section of tubing; and

 means for perforating the tubing along a transversely extending tear line between the two seal lines to facilitate separation of the two bags.

17. The machine of Claim 16 wherein the means for withdrawing successive sections of the tubing from the chute includes feed rollers movable between an extended position in which the rollers are in driving engagement with the tubing

and a retracted position in which the rollers are clear of the tubing.

18. The machine of Claim 16 wherein the means for sealing the tubing together includes a pair of vertically spaced transversely extending sealing bars on one side of the tubing and two rows of individual plungers on the other side of the tubing for pressing the tubing against the sealing bars.

19. The machine of Claim 18 wherein the means for perforating the tubing comprises a blade positioned between the two rows of plungers for engagement with the tubing as the plungers press the tubing against the sealing bars.

20. The machine of Claim 1 further including means for forming the tubing around the chute.

21. In a method of manufacturing packing cushions for use in shipping cartons and the like, the steps of:

- positioning an elongated length of flexible plastic tubing about a chute;
- 5 withdrawing successive sections of the tubing from the chute to form bags for receiving loose fill material discharged through the chute;
- discharging loose fill packing material through the chute into a bag formed by a first section of the tubing which has been withdrawn from the chute;
- 10 sealing the tubing together along two spaced apart transversely extending seal lines above the packing material in the first bag in order to close the upper end of the first bag and the lower end of a second bag formed by the next successive section of tubing; and
- perforating the tubing along a transversely extending tear line between the two seal lines to facilitate separation of the two bags.

22. The method of Claim 21 wherein the tubing is withdrawn from the chute by periodically engaging the tubing with feed rollers which are movable

5 between an extended position in which the rollers are in driving engagement with the tubing and a retracted position in which the rollers are clear of the tubing.

23. The method of Claim 21 wherein the tubing is sealed together by engaging one side of the tubing with a plurality of plungers arranged in two horizontally extending rows and pressing the tubing against a pair of vertically spaced transversely extending sealing bars on the other side of the tubing.

24. The method of Claim 23 wherein the tubing is perforated by pressing the teeth of a blade through the tubing as the tubing is pressed against the sealing bars.

25. The method of Claim 21 including the steps of feeding a continuous length of plastic film longitudinally of the chute, wrapping the film about the chute, and sealing edge portions of the film together to form the tubing.

5 26. A packing material for use in shipping cartons and the like, comprising a string of cushions formed by two superposed layers of flexible plastic film sealed together along transversely extending lines to form a series of closed chambers, loose fill packing material in the chambers, and perforations in the film between the chambers defining tear lines by which the cushions can be separated.

27. The packing material of Claim 26 wherein the film is sealed together along two lines between adjacent ones of the cushions, and the tear lines are positioned between the two seal lines.

28. The packing material of Claim 26 wherein the film is sealed together in discrete spaced apart areas along the transversely extending lines.